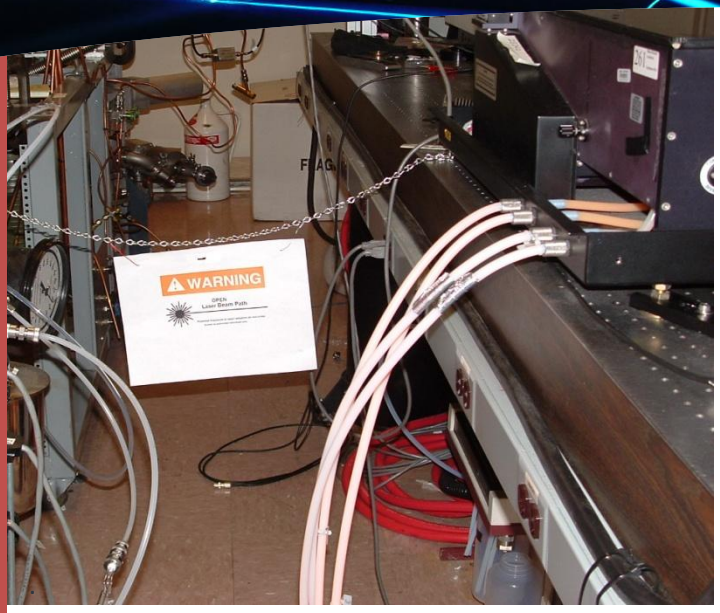
Monthly Newsletter on Laser Safety

The Remaining Eye



July 2012 Issue

Ken Barat's Retirement Date

My last day at LBNL will be Friday Sept 28. So we have three months to gether for me to assit you. It has been a great run for me at LBNL, best part is getting to know all of you. More to come as it gets closer.

LSO Posting

Is open for applications, see posting # 74821

LASER Safety Web Page

If you have not visited the Laser Safety Web page, check L in the LBNL A-Z Index, you are missing out on some a great deal of useful information

Laser Vendor Fair

The annual Laser vendor fair will be Sept 19, from 3-5 PM in the cafeteria. Being my last organized vendor fair, I am going all out to attract vendors and upscale food & drink. Make user you put the date on your calendar.

SEMICON WEST COMING SOON

SEMICON West is the flagship annual event for the global microelectronics industry. It is the premier event for the display of new products and technologies for microelectronics design and manufacturing, featuring technologies from across the microelectronics supply chain, from electronic design automation, to device fabrication (wafer processing), to final manufacturing (assembly, packaging, and test). More than semiconductors, SEMICON West is also showcase for emerging markets and technologies born from the microelectronics industry, including micro-electromechanical systems (MEMS), photovoltaics (PV), flexible electronics and displays, nano-electronics, solid state lighting (LEDs), and related technologies•

Moscone Convention Center,

Exhibition Hours

Tuesday, July 10:	10:00am – 5:00pm
Wednesday, July 11:	10:00am – 5:00pm
Thursday, July 12:	10:00am – 4:00pm

INTER SOLAR OF NORTH AMERICA-RUNS WITH SEMICON

Location Mosonce West. The Intersolar North America Exhibition is the place to brush up on information regarding innovations and the state-of-the-art technologies shaping the industry.

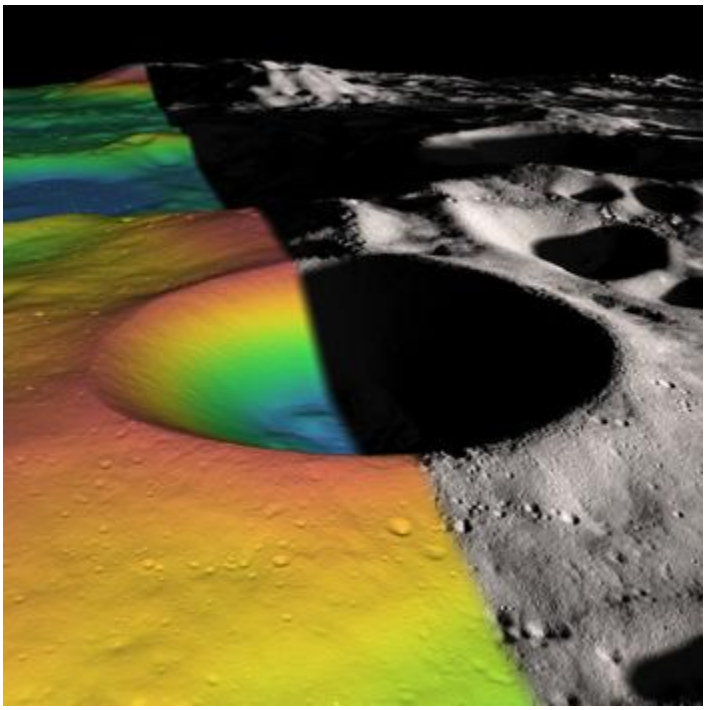
PV Cells and Modules (Manufacturers)
Solar Heating and Cooling Technologies
PV Cells and Modules (System Integrators, Project Developers, Distributors, Service Providers)
Balance of Systems
PV Cells and Modules (Manufacturers)
Components, Mounting and Tracking Systems
PV Manufacturing Equipment, Materials and Components

The latest from our reporter on Mars

Lunar Reconnaissance Orbiter's laser scanner suggests 22% of matter on floor of Shackleton crater could be frozen water.

NASA's Lunar Reconnaissance Orbiter (LRO) spacecraft has returned data that indicate ice may make up as much as 22 percent of the surface material in a crater located on the moon's south pole.

The team of NASA and university scientists, using data generated by LRO's laser altimeter, examined the floor of Shackleton crater. They found the crater's floor is brighter than those of other nearby craters, which is consistent with the presence of small amounts of ice. The information should help researchers understand crater formation and study other uncharted areas of the moon. The findings have just been published in *Nature*.



Pole hole: Shackleton crater at the moon's South Pole.

The spacecraft mapped Shackleton crater with unprecedented detail**, using a laser to illuminate the crater's interior and measure its albedo or natural reflectance**. The laser light measures to a depth comparable to its wavelength, or about a micron. That represents a millionth of a meter, or less than one ten-thousandth of an inch. The team also used the instrument to map the relief of the crater's terrain based on the time it took for laser light to bounce back from the moon's surface. The longer it took, the lower the terrain's elevation.

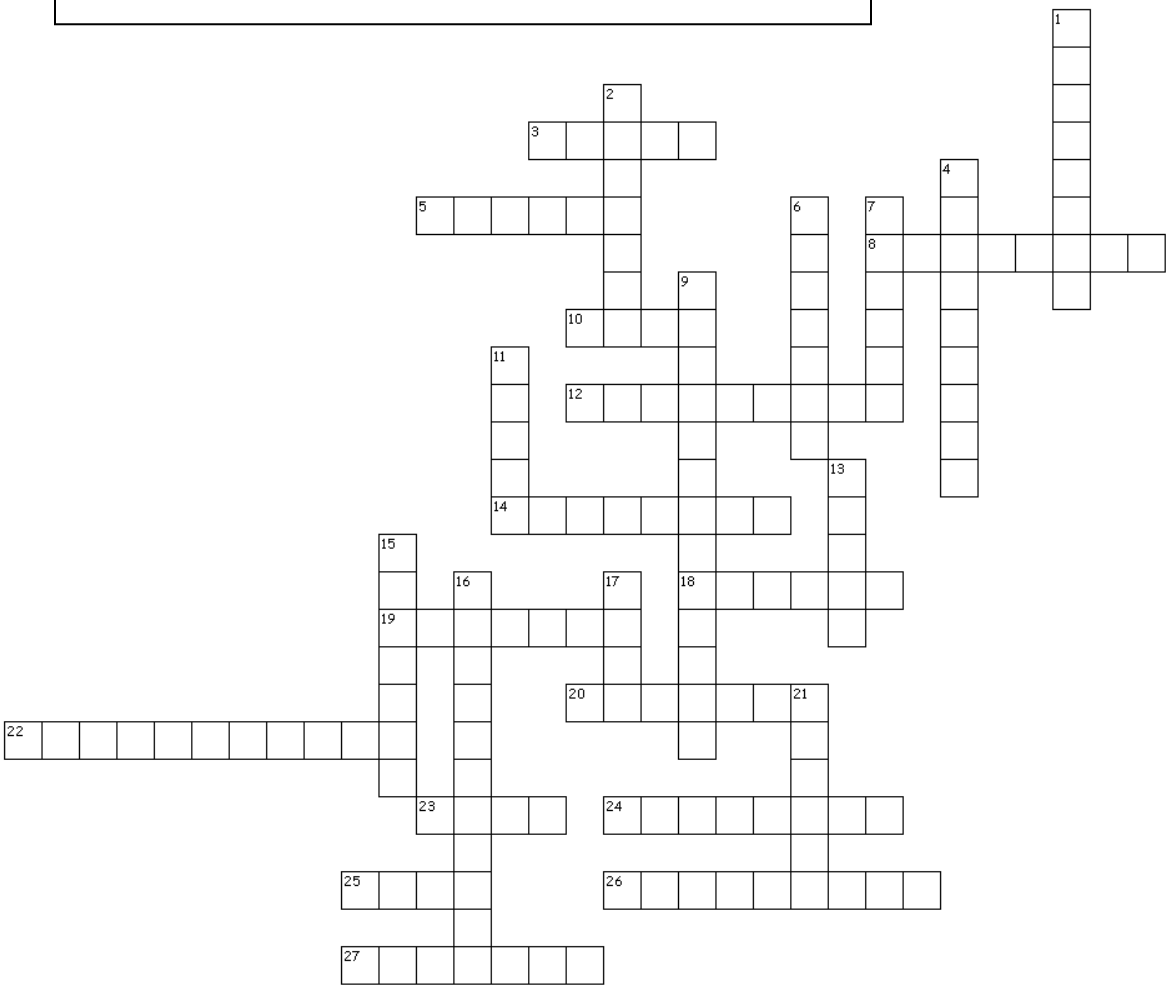
WORD ON LASER VENDOR SAFETY

One of the contributing accident causes at the Idaho National Lab skin burn incident was too much reliance on the skill of craft of the service crew, by both users and safety staff. While we expect these folks to be the experts on their systems, their skill level is not always "expert level" across their company's full product lines. Having worked on similar equipment is not always good enough. So ask questions, do not let service personnel take short cuts, allow them time to consult with others if needed. The old saying measure twice cut once still works meaning.

CROSS WORD PUZZLE CHALLENGE

Below is a cross word puzzle, if you complete it (correctly) and return you will in turn receive a set of laser related cartoons. My Mail Stop is Ken Barat 71-259

NAME_____MS_____



Across

3. LAMP
5. DEFICIENCY LACK OF AIR
8. A OF AHD
10. FASTER THAN FEMTO
12. BETWEEN TWO MIRRORS
14. YOUR LSO
18. NO A LENS, BUT A
19. A TYPE OF PPE
20. TYPE OF LASAER
22. C OF CPA
23. USED FOR ALIGNMENT
24. TI:
25. VERY SMALL
26. WHEN ACCIDENT HAPPEN
27. BREAKS UP A BEAM
17. MAKES A HOLE

Down

1. H IN SHG
2. G OF YAG
4. ACCESS CONTROL
6. NETURAL
7. SIGN SIGNAL WORD
9. LASER CHARACTERISTIC
11. EVERY BEAM SHOULD HAVE A
13. TYPE OF SLIT DANGEROUS
15. REMOTE
16. FASTER THAN NANOSECOND
17. MAKES A HOLE
21. A CYROGEN

SCIENCE HUMOR

How many physicists does it take to change a light bulb?
Eleven. One to do it and ten to co-author the paper.

How many astronomers does it take to change a light bulb?
None, astronomers prefer the dark.

How many radio astronomers does it take to change a light bulb?
None. They are not interested in that short wave stuff.

How many general relativists does it take to change a light bulb?
Two. One holds the bulb, while the other rotates the universe.

You Might Be a Physicist if...

- The water in your kettle is boiling at 373 Kelvin.
- You know that the speed of light is 299,792.5 km/sec.
- You know the direction the water swirls when you flush.
- You've already calculated how much you earn per second.
- You are sure that differential equations are a very useful tool.
- You are at an air show and know how fast the skydivers are falling.
- You know the size of the electron, but don't know your own shirt size.
- When you break a vase you blame the second law of thermodynamics.
- You try to explain entropy to strangers at your table during casual dinner conversation.
- You avoid stirring your coffee because you don't want to increase the entropy of the universe.
- Your three year old son asks why the sky is blue and you try to explain atmospheric absorption theory.
- You're at a wine tasting event and find yourself paying more attention to the cork screws than the Chardonnay.
- You carry on a one-hour debate over the expected results of an experiment that actually takes five minutes to run.

- **Einstein's favorite limerick was:**
  There was an old lady called Wright
  who could travel much faster than light.
  She departed one day
  in a relative way
  and returned on the previous night.

- A farmer has problems with his chickens: all of the sudden, they are all getting very sick. After trying all conventional means, he calls a physicist to see if they can figure out what is wrong. The physicist tries. He stands there and looks at the chickens for a long time without touching them or anything. Then all of the sudden he starts scribbling away in a notebook. Finally, after several gruesome calculations, he exclaims, "I've got it! But it only works for spherical chickens in a vacuum."